REMARKS

Claims

Claims 1-37 are pending. Claims 1-37 are rejected. Applicants hereby amend claims 1, 9, 16 and 25. Applicants hereby add claims 38 and 39, which are supported in the specification, at least, by page nine, lines 28-30.

Rejections Under 35 U.S.C. § 112, ¶ 1

The Examiner rejected previously presented claims 36 and 37 as failing to comply with the written description requirement. The Examiner contended that the limitation "priority of the data is proportion of utilized bandwidth at which the data is delivered to the receive buffer" had no support in the disclosure. It should be noted that the limitation as set forth in claim 36 is for a system "wherein the priority of the data is *associated with a* . . . proportion of utilized bandwidth" (emphasis added). Similarly, the limitation as set forth in claim 37 is for a system "wherein the priority of the data is *associated with a* . . . proportion of utilized bandwidth at which the data is delivered to the receive buffer" (emphasis added). These associations are evidenced in the specification as set forth below.

Claims 36 and 37 are supported by the written description at paragraphs **[0025]**, **[0030]**, **[0038]**, and **[0042]**. In paragraph **[0030]**, the user may select "a priority level for the data transfer. The selected priority level results in an absolute transfer rate or is responsive to other factors. . . . The rate of data transfer to receiver 520, for data transferred using the methods of the invention, is varied as a function of the amount of other traffic on network 530 or traffic receiver 520 is receiving." In paragraph **[0038]**, in step 820, the target data transfer rate is based on the priority of the data and the expected capacity of network 530. In paragraph **[0042]**, lower-priority files "are sent at a lower transmission rate so that files with a higher priority can utilize a higher proportion of available bandwidth." These portions of the specification all describe a system "wherein the priority of the data is associated with . . . a proportion of the

utilized bandwidth." As claims 36 and 37 are sufficiently supported by the specification, Applicants believe the rejection to be overcome.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1-6, 9-12, 16-21, and 25-30 under 35 U.S.C. § 103(a) "as being unpatentable over Williams et al (U.S. # 6,715,007) in view of Merchant et al (U.S. #5,933,413)." *Final Office Action*, p. 5 at ¶ 6. The Examiner rejected claims 7-8, 13-15, 22-24, 31-33, and 35 "as being unpatentable over Williams et al (U.S. #6,715,007), . . . and further in view of Packer (US #6,038,216)."

First, Williams et al (herein Williams) should not be applied in combination with Merchant et al (herein Merchant), or with Merchant and Packer, as there is no suggestion in the prior art to combine these references. MPEP § 2141, 2143; *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). "When the motivation to combine the teachings of the references is not immediately apparent, it is the duty of the examiner to explain why the combination of the teachings is proper." *Ex parte Skinner*, 2 U.S.P.Q.2d 1788 (Bd. Pat. App. & Inter. 1986). While one of ordinary skill in the art might "recognize[ ] the need for effectively and efficiently routing and processing . . . information," as noted by the Examiner, the **references** of record do not suggest the combination. *Final Office Action*, 7; see also *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308 (Fed. Cir. 1999) (requiring the references to suggest a motivation to combine).

The invention in Merchant is a "network interface device" or a "network controller." (Merchant, col. 1, lines 17-18). A network interface device is commonly understood as "a device that performs interface functions, such as code conversion, protocol conversion, and buffering, required for communications to and from a network"; "a device used primarily within a local area network (LAN) to allow a number of independent devices, with varying protocols, to communicate with each other."(*Federal Standard 1037C: Glossary of Telecommunications Terms*). A network controller is a "microprocessor device designed to perform communications protocol translations between various terminals and computers and an X.25 packet switching

network." (*Newton's Telecom Dictionary*). A network interface controller, or network interface card, is a "printed circuit board comprising electronic circuitry for the purpose of connecting a workstation to a LAN . . . usually . . . in the form of a card that fits into on of the expansion slots inside a PC . . . that works with the network software and computer operating system to transmit and receive messages on the network." (*Newton's Telecom Dictionary*).

Williams describes "a software-defined communication system . . . incorporating a data-rate regulator." (Williams, col. 2, lines 53-55). The software-defined communication system in Williams includes a data source and a data sink. (Williams, col. 2, lines 58-60). Packer, on the other hand, describes a digital data packet communication environment with a first and a second TCP end system (Packer, col. 4, lines 28-31). Each end system is connected to a router, and the routers are connected into a network cloud. (Packer, col. 3, lines 56-59). A rate control device is provided between an end system and one of the routers. (Packer, col. 3, lines 60-62).

The present application is for "a system for regulating an average rate of transmission on a computer network comprising: a receive buffer located on a receiver," where the receiver may be a computing device such as a web server, file server, client, personal computer, Internet appliance, set-top box, etc. See Tobagi, cl. 16 and ¶ 24.

Since Williams reads on a different field and even a different classification (input/output data buffering, class 710) than Merchant (multiplex communications, class 370) and Packer (multiplex communications, class 370), the Applicants suggest Williams is not analogous prior art and therefore should not be replied upon as a basis for rejection in conjunction with Packer and Merchant; further, Packer and Merchant are in a different field than the present invention. MPEP § 2141.01(a); *In re Oetiker*, 977 F.2d 1443, 1446, 24 U.S.P.Q.2d 1443, 1445 (Fed. Cir. 1992); *Wang Labs., Inc. v. Toshiba Corp.*, 993 F.2d 858, 26 U.S.P.Q.2d 1767 (Fed. Cir. 1993). Williams applies to regulating data flow **through an I/O buffer**; Merchant and Packer apply to **controlling data flow in a multiplex communications system with measurement of the average data rate** and **end-to-end flow control in a multiplex communications system**, respectively. Due to

these disparities and the absence of a motivation to combine in the art, the Applicants respectfully request that the rejections of claims 1-6, 9-12, 16-21, 25-30, 7-8, 13-15, 22-24, 31-33, and 35 be withdrawn.

Furthermore, amended claim 16 recites a system for regulating an average rate of transmission on a computer network, comprising: a receive buffer located on a receiver, a rate control module coupled to the receiver and configured to determine available space in the receive buffer and to regulate a rate at which data is read from the receive buffer, such that the amount of available space in the receive buffer is maintained at a regulated value, and a transfer management module configured to regulate the rate at which data is delivered to the receive buffer based on a priority of the data, wherein the priority of the data results in an absolute transfer rate of the data. The user may designate a priority for the data, or may schedule transfer of the data so that its priority is determined.

With respect to claims 16-19, neither Merchant nor Williams nor Merchant and Williams in combination teaches a system of **regulating an average rate of transmission of data where the regulation is based on the priority of the data**, and **wherein the priority of the data results in an absolute transfer rate of the data** as is recited in the claims. Merchant describes "a state machine" which executes "three logical rules to determine . . . whether to assign a priority to transmit data or a priority to receive data." (Merchant, col. 5, lines 27-31.) Merchant makes no provision for **the user to assign the priority of the data**; only the three states are provided for selectively allocating the host computer resources. (Merchant, col. 4, lines 61-66). In Merchant, the logical rules of the state machine assign the priority of the data **based upon amount of data stored in the buffers**, as well as the transmittal or receiving of data by the network bus interface. (Merchant, col. 5, lines 30-35).

Williams describes a system with a data-rate regulator that functions to allow data to be "written into buffer 32 at the source data rate and read from buffer 32 at the sink data rate," with a data rate measured in baud. (Williams, col. 3, lines 23-25, 2). The invention of Williams adjusts the buffer fill rate **based solely on the data level within**

the buffer and the sign of the buffer fill rate, in order to prevent data overrun and underrun. (Williams, col. 5, lines 51-54, FIGs. 4-6). Therefore, neither Merchant nor Williams anticipates amended claim 16 nor do Merchant and Williams in combination and the rejection should be withdrawn.

Furthermore, with respect to claims 25-28, Merchant and Williams do not disclose a "system for transmitting data over a computer network employing TCP, comprising . . . a **receive buffer coupled to the receiver**, and a rate control module configured to regulate an amount of space available in the receive buffer to influence an average rate that data is read from the receive buffer and transferred from the sender to the receiver; and a transfer management module configured to regulate communication between the sender and the receiver **based on priority of the data, wherein the priority of the data results in an absolute transfer rate of the data.**" (Tobagi, Claim 25.)

Williams discloses a system where a data-rate regulator incorporating a buffer is **either** "inserted into system 20 between data source 24 and data sink 28," **or** incorporated into the data source, **or is realized as an independent device**. (Williams, col. 3, lines 16-18 and 60-64). Williams discloses a communication system where the buffer data level in the data-rate regulator is maintained between threshold levels to prevent data overrun and underrun conditions from occurring. (Williams, col. 6 line 66 - col. 7, line 5). Williams regulates data rate solely to prevent overrun and underrun, **not based on the priority of the data**. (Williams, FIGs. 3-6). Merchant discloses a system where the network interface device includes a buffer, and the network interface device as a whole **may be coupled to a system bus**. (Merchant, col. 1, lines 60-63). Merchant discloses a network interface device with three states for selectively allocating host computer services. (Merchant, col. 4, lines 66-67). The three states are reception from the network, transmittal to the network, or an arbitrary allocation. (Merchant, col. 4 line 67-col. 5, line 10). In Merchant, the priority of the data **is set by the state machine's logical rules**. (Merchant, col. 5, lines 25-46). For the foregoing reasons, Applicants believe that the Examiner's rejection of claims 16-19 and 25-28 has been overcome.

With respect to claims 1-6 and 9-12, the method claims corresponding to the apparatus claims, the arguments and analysis of claims 1-6 and 9-12 should be as previously discussed with respect to claims 16-19 and 25-28. For the previously discussed reasons, Applicants believe that the Examiner's rejection of claims 1-6 and 9-12 has been overcome.

The Examiner rejected claims 20-21 and 29-30 on the grounds that the use of standard FTP/HTTP transmission in the receiver to provide the server with the ability to retrieve & transmit data files and reliance on a commonly known standard such as the use of FTP & HTTP protocols over a network through a network interface in the manner claimed would be obvious. However, with respect to claims 20-21 and 29-30, the claims show that the **location of operation** of the rate control module may vary; the rate control module may operate **between** a TCP layer and a FTP/HTTP layer or may be **integrated** into a FTP/HTTP layer. (Tobagi, ¶ 26).

For the foregoing reasons, Applicants believe that the Examiner's rejection of claims 20-21 and 29-30 has been overcome.

The Examiner rejected claims 7-8, 13-15, 22-24, 31-33, and 35 under 35 U.S.C. § 103(a) "as being unpatentable over Williams et al (U.S. # 6,715,007) in view of Merchant et al (U.S. #5,933,413) and Packer (U.S. # 6,038,216)." *Final Office Action*, p. 7 ¶ 7. As stated above, Williams should not be applied in combination with Merchant or with Merchant and Packer. Also, Packer describes "a method for *explicit* network level data control." (Packer, col. 3, lines 17-18, emphasis added).

With respect to claims 22-24 and 31-33, 35, as discussed above, Packer combined with Williams and Merchant does not disclose a "system of regulating an average rate of transmission on a computer network, comprising: a receive buffer located on a receiver; a rate control module configured to . . . regulate a rate at which data is read from the receive buffer . . . and a transfer management module **configured to regulate the rate at which data is delivered to the receive buffer based on the priority of the data**, wherein the priority of the data results in an absolute transfer rate of the data." (Tobagi, Claim 16). Packer adds "latency to the acknowledgement (ACK) packet and adjusts the size of

the flow control window associated with the packet in order to directly control the data source of the source data at the station originating the packet." (Packer, Abstract.)

With respect to claims 7-8 and 13-15, method claims corresponding to the apparatus claims 22-24 and 31-33, the arguments and analysis should be as previously discussed with respect to claims 22-24 and 31-33.

For the foregoing reasons, Applicants believe that the Examiner's rejection of claims 7-8, 13-15, 22-24, 31-33, and 35 has been overcome.

CONCLUSION

Applicants believe the Examiner's 35 U.S.C. § 103 rejections have been overcome in their entirety in that the cited references – either individually or in combination – fail to teach each and every limitation of the claims as amended. Applicants believe the Examiner's 35 U.S.C. § 112, ¶ 1 rejections have been overcome by pointing out the written description of the claims in the specification. Allowance of the application is therefore requested. If the Examiner has any questions concerning the present application, the Examiner is invited to contact the Applicant's undersigned representative.

Respectfully submitted,
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